Laboratory Manual (Cont.)

SOV/2567

In the laboratory work students are acquainted with design, set-up and testing of machine tools, and are trained in experimentation. Diagrams of eleven types of machine tools and of some of their components are given. No personalities are mentioned. There are 17 Soviet references.

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SOV/[illegible]567

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AVAILABLE: Library of Congress

Card 4/4

IS/jb
12-1-59

CHELOBOV, Nikolay Alekseyevich [deceased]; **PETRUKHA**, Petr Grigor'yevich;
BOVIN, Vladimir Georgiyevich; **MYAKISHEV**, Mikhail Antonovich;
BUYANOVA, Tat'yana L'vovna; **SUVOROVA**, I.A., izdat.red.; ROZHIN,
V.P., tekhn.red.

[Laboratory manual for the course "Metal-cutting machine tools"]
Rukovodstvo k laboratornym rabotam po kursu "Metallorezhushchie
stanki." Moskva, Gos.izd-vo obor.promyshl., 1959. 143 p.
(MIRA 12:10)

(Machine tools)

PETRUKHA, P. [illegible]

[illegible] PHASE I BOOK EXPLOITATION [illegible]

Kri[illegible], Vasiliy A[illegible]ovich, [illegible]
Y[illegible], A[illegible] [illegible]
Mikhail A[illegible] M[illegible], [illegible]
and Pet[illegible] [illegible]

[illegible]
, [illegible]

Reviewer: Kl[illegible]in, N. I.; Ed. (Title page): Kri[illegible], V. A.; Ed.: [illegible]
Arshinov, V. A., Candidate [illegible] Sciences, Docent; Ed. of Publ[illegible]:
Suvorova, I. A.; Tech. Ed.: R[illegible]in, V. P.; Managing Ed.: Sokol V. A. [illegible]

PURPOSE: This textbook is [illegible] technical [illegible] aviation [illegible].

COVERAGE: The book discusses [illegible] the physical fundamentals [illegible] processed using various types of [illegible] and emphasizing the special [illegible] for the aviation industry. A description [illegible] the basic [illegible] cutting tools are presented and their [illegible] mechanism [illegible]

Metal Cutting

S V [illegible]

[illegible]. In [illegible]
research institutes [illegible]
were used. [illegible] 66 [illegible]

PETRUKHA, Ye.I., kand.biolog.nauk

Is it necessary to fumigate slightly infested pea seeds? Zashch. rast. ot vred. i bol. 8 no.7:14 Jl '63. (MIRA 16:9)

1. Vsesoyuznyy institut sakharnoy svekly, Kiyev.

PETRUKHA, Ye.I., kand. biolog. nauk

Sugar beet pests. Zashch. rast. ot vred. i bol. 8 no.6:
37-39 Je '63.
(MIRA 16:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy
svekly, Kiyev.

(Sugar beets--Diseases and pests)
(Insecticides)
(Insects, Injurious and beneficial--Control)

BUZANOV, I.F.; SAMBUROV, V.I., YEMETS, G.M.; ORLOVSKIY, N.I.; NEGOVSKIY, N.A.; FEDOROV, A.I.; GREKOV, M.A.; KURBATOV, S.T.; MEL'NICHUK, A.N.; TONKAL', Ye.A.; GORNAYA, V.Ya.; ROZHDESTVENSKIY, I.G.; SIDOROV, A.A., KUDARENKO, F.F.; BROVKINA, Ye.A., GELLER, I.A.; DOBROTVORTSEVA, A.V.; VARSHAVSKIY, B.Ya.; KUTSURUBA, N.V.; KUZ'MICH, S.I.; PRESNYAKOV, P.V.; USHAKOV, A.F.; SHEVCHENKO, V.N.; KHUCHUA, K.N.; PETRUKHA, Ye.I.; POZHAR, Z.A.; SHAPOVALOV, P.T.; AREF'YEV, T.I.; GRIGOR'YEVA, A.I., red.; BALLOD, A.I., tekhn. red

[Sugar beets] Sakharnaia svekla. Moskva, Sel'khozizdat, 1963 487 p. (MIRA 16:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy svekly. 2. Nauchnyye sotrudniki Vsesoyuznogo nauchno-issledovatel'skogo instituta sakharnoy svekly (for all except Grigor'yeva, Ballod).

(Sugar beets)

PROKOPENKO, S.F.; BURD, V.S.; PETRUKHA, Ye.I.

A new method of spraying field crops. Zashch. rast. ot vred. i bol. 7 no.1:17-18 '62. (MIRA 15:6)
(Spraying and dusting)

PETRUKHA, Ye.I., kand.biolog.nauk

Protecting legume sprout against pests. Zashch.rast.ot vred.i bol.
7 no.4:41-43 Ap '62. (MIRA 15:12)

1. Vsesoyuznyy institut sakharnoy svekly, g. Kiyev.
(Legumes--Diseases and pests)
(Insects, Injurious and beneficial--Control)

PROKOPENKO, S.F.; PETRUKHA, Ye.I.; POPOVNINA, N.I.; KOBYLKO, B.G.

Low-volume surface spraying of sugar beet and pea fields. Zashch. rast. ot vred. i bol. 8 no.1:28-29 Ja '63. (MIRA 16:5)
(Spraying and dusting in agriculture)

PETRUKHA, Ye.I., kand.biolog.nauk

Protection of peas against pests in the Ukraine. Zashch.rast.ot vred.i bol. 7 no.5:37-38 My '62.
(Ukraine--Peas--Diseases and pests) MIRA [illegible]

ZHITKEVICH, Ye.N., starshiy nauchnyy sotrudnik; PETRUKHA, Ye.I., kand. biolog.nauk; POZHAR, Z.A., kand.sel'skokhoz.nauk; SHEVCHENKO, V.N., kand.sel'skokhoz.nauk; BUTOVSKIY, A.P., starshiy nauchnyy sotrudnik, spetsialist entomolog i fitopatolog; GROMAKOV, P.M., starshiy nauchnyy sotrudnik, spetsialist entomolog i fitopatolog [deceased]; MARKOV, F.I., kand.biolog.nauk, spetsialist entomolog i fitopatolog; PUCHKOV, V.G., kand.biolog.nauk, spetsialist entomolog i fitopatolog; PALIY, V.F., doktor biolog.nauk, spetsialist entomolog i fitopatolog; POLEVOY, V.V., starshiy nauchnyy sotrudnik, spetsialist entomolog i fitopatolog; SHMELEVA, V.A., kand.biolog.nauk, spetsialist entomolog i fitopatolog; ZVEREZOMB-ZUBOVSKIY, Ye.V., prof., doktor sel'skokhoz.nauk; KORAB, I.I., prof., doktor sel'skokhoz.nauk; MOROCHKOVSKIY, S.F., prof., doktor biolog.nauk; MURAV'YEV, V.P., prof.; SALUNSKAYA, N.I., kand.biolog.nauk; SAVCHENKO, Ye.N., red.; ZUBAREV, A.S., khudozh.-tekhn.red.

[Sugar beet growing] Sveklovodstvo. Izd.2., perer. i dop. Kiev, Gos.izd-vo sel'khoz.lit-ry USSR. Vol.3. Pt.1. [Sugar beet pests and their control] Vrediteli sakharnoi svekly i mery bor'by s nimi. Pt.2. [Sugar beet diseases and their control] Bolezni sakharnoi svekly i mery bor'by s nimi. 1959. 642 p. (MIRA 12:11)

(Continued on next card)

ZHITKEVICH, Ye.N.---(continued) Card 2.
1. Kiyev. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy
svekly. 2. Vsesoyuznyy nauchno-issledovatel'skiy institut sakharnoy
svekly (for Znitkevich, Petrukha, Pozhar, Shevchenko). 3. Uladovo-
Lyulinetskaya opytno-selektsionnaya stantsiya Vsesoyuznogo nauchno-
issledovatel'skogo instituta sakharnoy svekly (for Butovskiy). 4. Iva-
novskaya opytno-selekts.stantsiya Vsesoyuznogo nauchno-issledov.insti-
tuta sakharnoy svekly (for Gromakov). 5. Kurgizskaya opytno-selekts.
stantsiya Vsesoyuznogo nauchno-issledov.instituta sakharnoy svekly (for
Markov, Polevoy).6. Veselopodolyanskaya opytno-sel. stantsiya Vsesoyuz-
nogo nauchno-issledov.instituta sakharnoy svekly (for Puchkov). 7. Ra-
monskaya opytno-selekts.stantsiya Vsesoyuzn.nauchno-issledov.instituta
sakharnoy svekly (for Paliy). 8. Pervomayskaya opytno-selekts.stantsi-
ya Vsesoyuznogo nauchno-issledov.instituta sakharnoy svekly (for Shme-
leva). 9. Chleny-korresp. AN USSR (for Zverezomb-Zubovskiy, Murav'yev).
(Sugar beets--Diseases and pests)

107-57-3-40/64

AUTHOR: Petrukhin, A. (Moscow)

TITLE: KVN-49 TV Set with 31LK2B Kinescope and an External Control Unit. Experience exchange (Televizor KVN-49 na kineskope 31LK2B s vynosnym pul'tom upravleniya. Obmen opytom)

PERIODICAL: Radio, 1957, Nr 3, pp 38-39 (USSR)

ABSTRACT: The article offers instructions on how to mount and connect a 31LK2B kinescope in a KVN-49 TV set for the purpose of enlarging the screen up to 195 x 260 mm. Detailed instructions for dismantling the old kinescope and mounting the new type are supplied. In case of insufficient anode voltage, introduction of a second 1Ts1S vacuum-tube rectifier is recommended. For convenience of adjustment of the picture, an external control unit is recommended, and all details concerning its circuit and construction are given. The 3.5-meter long cable connecting the external control unit with the TV set should have eight conductors for the KVN-49 set and nine conductors for KVN-49-A, KVN-49-B and KVN-49-4 TV sets. The external control unit comprises contrast, volume, focus, and brightness controls.

Card 1/2

107-57-3-40/64

KVN-49 TV Set with 31LK2B Kinescope and an External Control Unit. Experience ....

Editor's note: Improvements of KVN-49 TV sets, as suggested by many radio amateurs, will result in inferior reproduction of fine details of the picture unless the anode voltage for the new kinescope is stepped up. There are two figures and two Soviet references in the article.

Card 2/2

PETRUKHIN, A. (Moskva)

The KVN-49 television set using the 31Lk2B kinescope with a remote control panel. Radio no.3:38-39 Mr '57. (MLRA 10:5)
(Television--Receivers and reception)

PETRUKHIN, A.

Universal kitchen stove. Sel'.stroi. 11 [i.e.12] no.1:28 Ja '57.
(MLRA 10:3)

(Stoves)

AID P - 4926

Subject : USSR/Engineering

Card 1/1 Pub. 89 - 10/17

Author : Petrukhin, A.

Title : Television receiver of the "KVN-49" type with the 31LK2B kinescope.

Periodical : Radio, 7, 40-41, Jl 1956

Abstract : The author describes the remodeling and adjusting of the television receiver of the KVN-49 type which can be provided with the 31LK2B type kinescope. The article gives a description of the adjustments to be done. One connection diagram, 1 drawing.

Institution : None

Submitted : No date

L 2769-66 EWT(m) IJP(c) 34

ACCESSION NR: AP5021331 UR/0120/65/000/004/0059/0062 33

539.1.074.2 B

AUTHOR: Kirillov-Ugryumov, V. G.; Petrukhin, A. A.; Shestakov, V. V.

TITLE: The study of certain characteristics of the IK-6 ionization chamber 19

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1965, 59-62

TOPIC TAGS: ionization chamber, ion distribution, alpha particle

ABSTRACT: This paper presents the results of investigations of the IK-6 110x54 mm^2, 3 meter ionization chamber. The investigations cover the potential distribution across the cross section of the chamber, the calculated coefficients of electron collection at various parts of the chamber, and the calculated electron collection times. Using α particles from Pu^{239} samples, the authors verified experimentally (at 0.5 atm of pure and commerical argon) the effectiveness of corner operation and the electron collection time (as a function of applied voltages). Pulse oscillograms are shown in Fig. 1 of the Enclosure. "The authors thank V. V. Borog, I. A. Danil'chenko, and V. G. Sinitsyna for the help during individual measurements and N. L. Grigorov for valuable remarks." Orig. art. has: 4 formulas, 5 figures, and 2 tables.

Card 1/3

L 2769-66
ACCESSION NR: AP5021331

ENCLOSURE: 01

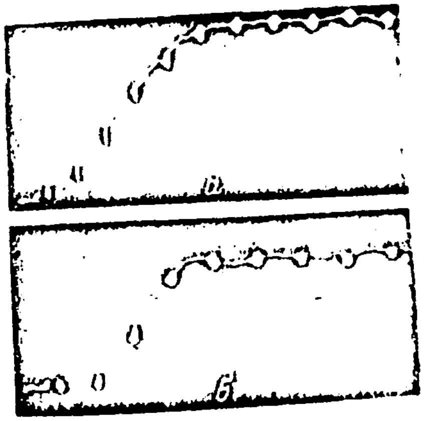

Figure 1. Pulse oscillograms
a - pure argon; б - commerical argon. Marks every 5 μsec.

Card 3/3

L 10211-63 EPF(n)-2/EWT(m)/BDS/ES(b)--AFFTC/
ASD/AFGC/SSD--Pu-4--AR/K
ACCESSION NR: AP3000058 S/0056/63/044/005/1618/1621

AUTHOR: Petrukhin, A. A.; Rozental', I. L. 63

TITLE: Angular distribution of cosmic ray muons under thick absorbers.

19

SOURCE: Zhurnal eksper. i teoret. fiziki, v. 44, no. 5, 1963, 1618-1621

TOPIC TAGS: cosmic-ray muons, underground angular distribution

ABSTRACT: The angular distribution of cosmic-ray muons under thick layers or rock is calculated. A general formula is first deduced for the angular distribution at large depths, and the error due to fluctuations in the energy loss of the fast muons and their scattering in the rock is estimated. The calculations are then compared with the experimental data on the angular distribution at large depths underground, and the theoretical and experimental results are found to be in agreement. This seems to indicate that the cross sections for elementary interaction processes involving fast muons (with energy 1000 - 10000 Bev) are satisfactorily described by present-day theory. Orig. art. has: 17 formulas and 2 figures.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut (Moscow Engineering Physics Institute)

SUBMITTED: 08Dec62 DATE ACQ: 12Jun63 ENCL: 00
SUB CODE: PH NR REF SOV: 003 OTHER: 006
Card 1/1

PETRUKHIN, A.A.; ROZENTAL', I.L.

Angular distribution of cosmic ray muons under thick filters. Zhur.eksp.i teor.fiz. 44 no.5:1618-1621 My '63. (MIRA 16:6)

1. Moskovskiy inzhenerno-fizicheskiy institut.
(Cosmic rays) (Mesons)

ACC NR: AP7007079 SOURCE CODE: UR/0048/66/030/010/1666/1668

AUTHOR: Borog, V. V.; Kirillov-Ugryumov, V. G.; Petrukhin, A. A.; Shestakov, V. V.

ORG: none

TITLE: Non-electromagnetic interactions of superhigh-energy muons /Paper presented at the All-Union Conference on Cosmic Radiation Physics, Moscow, 15-20 Nov 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 10, 1966, 1666-1668

TOPIC TAGS: muon, cosmic radiation

SUB CODE: 20

ABSTRACT: The non-electromagnetic interactions of superhigh-energy muons ($E \geq 10^{11}$ ev) were recorded at an installation for the study of cascade showers produced by cosmic radiation muons impinging at large zenith angles (cf. Borog et al, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 30, 10, 1669, 1966). The only known process which could give rise to the non-electromagnetic cascade showers recorded was that of nuclear interaction of muons. A comparison of the spectra of nuclear and electromagnetic showers made it possible to evaluate the cross-section $\sigma_{\gamma N}$ of the photonuclear process at $E \geq 10$ ev. By using the relation derived by P. & D. Kessler (Compt. Rend. 244, 1896, 1957), which applies to any transmitted energies, it was established that

$$\sigma_{\gamma N} = 0.15^{+0.20}_{-0.10} \cdot 10^{-28} \text{ cm}^2 \text{ per nucleon.}$$

Card 1/1 Orig. art. has: 3 figures and 2 formulas. /JPRS: 39, 650/

ACC NR: AP7007080 SOURCE CODE: UR/0048/66/030/010/1669/1673

AUTHOR: Borog, V. V.; Kirillov-Ugryumov, V. G.; Petrukhin, A. A.; Rozental', I. L.; Shestakov, V. V.

ORG: none

TITLE: Study of the energy spectrum of cosmic-ray muons on the basis of electron-photon showers /Paper presented at the All-Union Conference on Cosmic Radiation Physics, Moscow, 15-20 Nov 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 10, 1966, 1669-1673

TOPIC TAGS: calorimeter, cosmic ray, muon

SUB CODE: 20

ABSTRACT: At present, outer space is the only accelerator of particles with superhigh energies. The energy spectrum of electromagnetic cascades produced by superhigh-energy muons ($E_{\mu} \gg 10^{11}$ ev) impinging at angles $\geq 55^{\circ}$ was studied at sea level on an ionization calorimeter consisting of six rows of Ar-filled ionization chambers, 25 in each row, with an iron interlayer between the chambers acting as an absorber. The majority of the cascades recorded were due to the interaction of muons with the absorber. A small number of showers (~17) was produced by nucleus-reactive particles. The energy spectrum of [illegible] was determined on the basis of the recorded showers due to high-energy photons and electrons formed by interaction of the muons with atoms of the absorber. Mathematical equations expressing the experimentally determined energy spectrum

The authors thank G. G. Bunatyan for help in carrying out the numerical computations on the ETsVM. Orig. art. has: 4 figures and 6 formulas. [JPRS: 39,658]

TOV, Yu. D.; PETRUKHIN, A. A.; ROZENTAL, I. L.

Some problems due to the angular distribution of cosmic ray muons under thick filters.

Report submitted for the 8th Intl. Conf. on Cosmic Rays (IUPAP), Jaipur, India, 2-14 Dec 1963

S/823/62/000/000/003/007
B125/B102

AUTHORS: Kirillov-Ugryumov, V. G., Petrukhin, A. A., Prokhorova, L. A., Rozental', I. L.

TITLE: Evaluation of the possibility of using cosmic rays for examining the muon structure

SOURCE: Nekotoryye voprosy fiziki elementarnykh chastits i atomnogo yadra. Ed. by V. L. Mikhaylov and I. L. Rozental'. Mosk. inzh.-fiz. inst. Moscow, Gosatomizdat, 1962, 77-82

TEXT: The nature of electromagnetic interaction at distances of ~ 10^{-13} cm may perhaps be revealed by investigating the muon-electron scattering at electron energies of 10-100 Bev. Cosmic radiation is suggested as a source of high-energy muons. Table 1 contains the probabilities

$$w(E)=\int\limits_{E_{0\,\text{мин}}}^{\infty}\frac{2Cm}{E^2}\left[1-\frac{E}{E_{\text{макс}}}+\frac{1}{2}\left(\frac{E}{E_0}\right)^2\right]\frac{(\gamma-1)\cdot E_k^{\gamma-1}}{(E_k+E_0)^{\gamma}}\,dE_0\,. \quad (8)$$

Card 1/3

S/823/62/000/000/003/[illegible]
B125/B102

Evaluation of the possibility...

that δ-electrons of energy E may be produced by cosmic-ray muons of any energy, the total production probabilities for electrons of energies above a given value, and the root-mean-square values of the transverse momentum transferred by electrons of energy E. The total number $N(E)=w(E)\Omega\cdot l\cdot t j_0$ of δ-electrons with energies greater than E, recorded by an ionization calorimeter, is N ≈ 60 t for E = 10 Bev (t is given in days). Here, μ-e scattering occurs in a target with a thickness of l = 20 g/cm^2; $\Omega = 5.5\cdot 10^4$ cm^2·sterad is the aperture ratio of the measuring apparatus, and $j_0 = 0.5\mu$ (cm^2·sterad·min)$^{-1}$ is the muon flux at sea level. The effect of the form factor of the muon-electron system is characterized by probability deviations $\Delta w/w = ((w(E)-w_1(E))/w(E) = a^2\bar{p}^2/3$ of some per cent at most. The integral probability w_1 is

$$w_1(E) = \int_{E_{\min}}^{\infty} Y(E, E_\mu)\left(1-\frac{\bar{p}^2 a^2}{3}\right) dE_\mu \qquad (16)$$

(16),

Card 2/3

Evaluation of the possibility...

S/823/62/000/000/003/007
B125/B102

and (8) can be reduced to $w(E) = (Cm/E^2)(E_k/E_{0\ min})^{\gamma-1}$, where $C = 0.15\ Z/A$. There are 2 tables.

Таблица 1

E, Бэв	$w(E)$	$W(E)$	$p_\perp$, Мэв/с
10	$1{,}5 \cdot 10^{-8}$	$7{,}91 \cdot 10^{-8}$	80
20	$0{,}183 \cdot 10^{-8}$	$1{,}61 \cdot 10^{-8}$	110
30	$0{,}0518 \cdot 10^{-8}$	$0{,}63 \cdot 10^{-8}$	130
40	$0{,}0211 \cdot 10^{-8}$	$0{,}333 \cdot 10^{-8}$	140
50	$0{,}0103 \cdot 10^{-8}$	$0{,}2 \cdot 10^{-8}$	160
70	$0{,}0035 \cdot 10^{-8}$	$0{,}09 \cdot 10^{-8}$	190
100	$0{,}0011 \cdot 10^{-8}$	$0{,}039 \cdot 10^{-8}$	220

Table 1

Card 3/3

L 06347-67 EWT(m) GD
ACC NR: AT6032306 SOURCE CODE: UR/0000/66/000/000/0059/0068

AUTHOR: Borog, V. V.; Kirillov-Ugryumov, V. G.; Petrukhin, A. A.; Rozental', I. L.; Shestakov, V. V.

ORG: none

TITLE: Ionization calorimeter for the investigation of high energy cosmic muons at large zenith angles

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Fizika elementarnykh chastits (Physics of elementary particles). Moscow, Atomizdat, 1966, 59-68

TOPIC TAGS: muon, calorimeter, bremsstrahlung, cosmic ray measurement, angular distribution, ionization chamber, waveguide

ABSTRACT: A study of high energy muons, using the horizontal flux zenith angles >60° of cosmic rays at sea level was made and an ionization calorimeter developed for this purpose is described. Such a study is feasible because the horizontal flux at large zenith angles θ consist almost exclusively of muons and the intensity of muons for energies $>10^{11}$ ev increases with θ. The apparatus uses muon flux to study high energy muon interactions with matter and measures the characteristics of the horizontal muon flux to determine the angular and energy distributions. The ionization calorimeter enables one to study both of these areas by observing the showers produced by the muons due primarily to bremsstrahlung and nuclear interactions. It detects muons

Card 1/2

L 06347-67

ACC NR: AT6032306

in the energy interval $2\cdot10^{11}-5\cdot10^{12}$ ev for $60° \le \theta \le 90°$. The instrument consists of 150 ionization chambers arranged in six rows, forming a coordinate set for determining the angle made of a shower. A layer of iron 9 cm thick is placed between each row with a total weight >40 tons. Each chamber is made from a section of waveguide 110 × 54 mm and 3 m long with an electrode 3 mm in diameter at +1200 volts, filled with argon at a pressure of 5 atm. A block diagram of the major component is shown. The pulse from each chamber is amplified and then stored on capacitors in the memory section which is successively probed by a mechanical commutator. The commutator signal is photographed using an H-700 loop oscilloscope. The event selection and switching of the detector take place in the control block. The registration block records the data and a timing relay fixes the detection time of a given event. Orig. art. has: 2 formulas, 7 figures.

SUB CODE: 20/ SUBM DATE: 25Feb66/ ORIG REF: 003/ OTH REF: 008

Card 2/2 mc

ACC NR: AP6037064 SOURCE CODE: UR/0056/66/051/005/1348/1357

AUTHOR: Petrukhin, A. I.; Proskuryakov, V. A.

ORG: Institute of Physics of the Earth, Academy of Sciences SSSR (Institut fiziki Zemli Akademii nauk SSSR)

TITLE: Determination of the total absorption coefficients of air heated by strong shock waves

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 5, 1966, 1348-1357

TOPIC TAGS: shock wave, plasma, shock wave plasma, plasma emissivity, plasma absorption, shock wave damping, shock wave energy loss, shock wave absorption

ABSTRACT: Experimental measurements were made of the dependence of the shock-wave front velocity in an electrodynamic tube on the distance from the discharge gap, and of the temperature and density distribution behind the front. The measurement data were used as the basis for determining the radiative capacity of the air heated by the wave front under conditions of the experiment. The arrangement for the measurement of shock-wave velocities was described previously by the authors (ZhETF, v. 48, 1965, p. 50, and v. 50, 1966, p. 1481). The results show that the portion of energy spent on the formation of the shock wave does not depend on the initial pressure in the tube. The formation of the shock wave extended from the

ACC NR: AP6037064

source up to a distance of 26 cm. Beyond that, the shock wave characteristics are similar to those of an equivalent plane explosion at Mach numbers below 20. At higher Mach numbers, the damping of the shock wave beyond the distance of 85 cm from the source is much faster than in the case with shock waves from an explosion. These results are similar to those reported by Guthart and Morita (J. Appl. Phys., v. 36, 1965, 2577). The temperature and density distribution behind the front were determined by a method described earlier (ZhETF, v. 50, 1966, 1481) for initial tube pressures of 0.1, 0.2, and 0.5 mm Hg. The ratios of the behind-the-front temperature and density to those on the front were plotted against time at 85 and 142 cm from the source. The time dependence of these ratios at the initial pressure of 0.1 mm Hg coincided at both distances from the source. The energy loss by the layer of heated gas at the front was calculated on the basis of a simplified formula deduced from the energy conservation law using the experimental data on temperature and density distribution by a simple extrapolation of the Kuznetsov tables of the intrinsic energy relations of air (Termodinamicheskiye funktsii i udarnyye adiabaty vozdukha pri vysokikh temperaturakh. Mashinostroyeniye, 1965). The method shows that radiative cooling and thermal conductivity are the main factors of energy losses from the behind-the-front plasma. The calculation shows that in the immediate proximity of the front, at a wave velocity of 50 km/sec and a temperature of 70,000 K, the losses through thermal conduction do not exceed 10^8 erg/cm^3·sec, i.e., they are less than 0.01% of the total energy loss, the balance being ascribed to radiative cooling, which can be measured by the specific emissivity of the plasma or by the total absorption coefficient $\varkappa = fp_s/4\sigma T^4$ (fp_s - specific emissivity, σ - the

Card 2/3

ACC NR: AP6037064

Stefan-Boltzman constant, T - temperature in K). The discrepancy between the absorption coefficients based on this experiment and the theoretical values according to Kuznetsov (op. cit.) is found to be acceptable, considering the accuracy levels of both data. The authors thank I. O. Zel'manov for constant interest in the work and valuable comments, and N. M. Kuznetsov, I. V. Nemchinov, and K. Ye. Gubkin for useful discussions. Orig. art. has: 7 figures, 2 tables, and 5 formulas.

SUB CODE: 20/ SUBM DATE: 15Jun66/ ORIG REF: 007/ OTH REF: 004/ ATD PRESS: 5108

Card 3/3

L 3634-66 EWT(1)/EWA(h)/EWA(c)
ACCESSION NR: AP5021354
UR/0120/65/000/004/0167/0169
535.853.8

33
32
B

AUTHOR: **Petrukhin, A. I.; Kologrivov, V. N.**

TITLE: Pulsed light source using the ISP-5 tube

SOURCE: Pribory i tekhnika eksperimenta, no. 4, 1965, 167-169

TOPIC TAGS: visible light quantum generator, 25 visible light, optic brightness, xenon lamp

ABSTRACT: There is a present need for pulsed light sources producing white light lasting $\lesssim$ 1 μsec. Best existing sources of this type use capillary pulsed lamps (M. P. Vanyukov, A. A. Mak, Uspekhi fiz. nauk, 1958, 66, 2, 301). A still stronger source can be based on the commercially available Xe-filled ISP-5 tube the flare brightness of which is ~40 Gnit (I. S. Marshak, PTE, 1962, no. 3, 1). The article describes such a source with the flare duration between 0.6 and 0.7 μsec. which is close to the possible minimum for the given lamp under the chosen operating conditions. The circuit diagram is shown in Fig. 1 of the Enclosure. The great brightness of the lamp makes it suitable for spectroscopic, interference, and shadow investigations of fast events. "The authors thank V. F. Razumtsev for his participation in the work and discussions." Orig. art. has: 4 figures.

Card 1/3

L 3634-66

ACCESSION NR: AP5021354

ASSOCIATION: Institut fiziki Zemli AN SSSR, Moscow (Institute of Terrestrial Physics, AN SSSR)

SUBMITTED: 18 June 64 ENCL: 01 SUB CODE: OP, EC

NO REF SOV: 003 OTHER: 001

Card 2/3

L 3634-66

ACCESSION NR: AP5021354 **ENCLOSURE: 01** 0

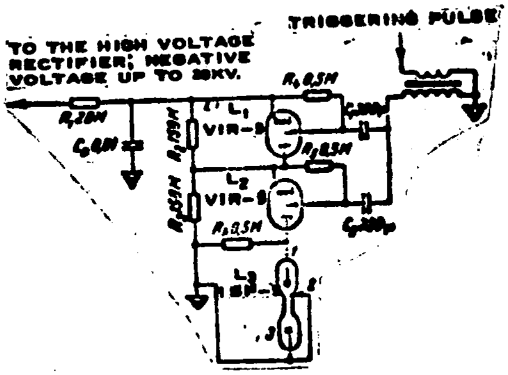

Fig. 1. Electrical scheme of the light source.

BVK
Card 3/3

L 40170-66 EWT(1)/EWP(m)/EWT(m)/FCC/T WW/JW/JWD/GW

ACC NR: AP6020202

SOURCE CODE: UR/0056/66/050/006/1481/1490 96

AUTHOR: Petrukhin, A. I.; Proskuryakov, V. A.

ORG: Institute of the Physics of the Earth, Academy of Sciences, SSSR (Institut fiziki zemli Akademii nauk SSSR)

TITLE: Temperature and concentration of charged particles behind the front of a strong shock wave in the air

SOURCE: Zh eksper i teor fiz, v. 50, no. 6, 1966, 1481-1490

TOPIC TAGS: electron temperature, shock wave, spectral line, electric discharge, charged particle, atmospheric shock wave, shock wave front

ABSTRACT: The electron temperatures and concentrations of charged particles behind the front of a strong shock wave in the air have been measured. The shock wave was produced by an electric discharge in a tube at initial pressures of 0.1, 0.2, and 0.5 mm Hg. The temperatures were determined from the relative and absolute intensities of the spectral line. The charge particle concentrations were determined from the Stark expansion of the H line. The temperature and concentration values determined are in good agreement with the equilibrium values of the quantities calculated from the shock-wave velocity. The maximum values of the electron temperatures are (60—70) x 10^3K for charged-particle concentrations of the order of (6—7)x10^{16} cm^{-3}

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L 40170-66

ACC NR: AP6020202

4

and of threshold wave-front velocities of the order of 45—50 km/sec. The oscillator strengths were measured for two nitrogen lines. For the NII line with a wavelength of $\lambda = 4026.09$ Å, the measured value is $gf = 0.90$. For the NIII line with a wavelength $\lambda = 45.0.92$ Å, the measured value is $gf = 1.36$ with a 10—15% accuracy. The authors thank I. Zel'manov for his valuable discussions and advice, and V. V. Pegaonv and V. I. Gazeleridi for their help in selecting and adjusting the system for measuring shock-wave velocities // Orig. art. has: 5 figures, 2 formulas, and 4 tables. [Based on authors' abstract] [NT]

SUB CODE: 20/ SUBM DATE: 19Jan66/ ORIG REF: 011/ OTH REF: 009

Card 2/2

L 26058-65 EWT(1)/EWP(m)/FCS(k)/EWA(h) Pd-1/Pi-4

37
14
B

ACCESSION NR: AP5004372 S/0056/65/048/001/0050/0060

AUTHOR: Belokon', V. A.; Petrukhin, A. I.; Proskuryakov, V. A.

TITLE: Entrance of a strong shock wave into a wedge-shape cavity

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 1, 1965, 50-60

TOPIC TAGS: shock wave propagation, shock wave reflection, high temperature plasma, shock tube, shock wave, high pressure

ABSTRACT: The authors investigated some features of multiple Mach reflections of converging strong shock waves produced by an electric spark discharge in a shock tube made of iron with an approximate inside diameter of 110 mm. The energy stored was about 8000 J, with approximately 3000 J released in the gap (80% of which was released in 8.5 μsec). The tube consisted of two sections, each 550 mm long, and to the end of the second section was connected a Plexiglas section, constituting a rectangular channel 50 x 50 mm in cross section and 320 mm long. In the latter was placed an insert in the form of a wedge-shaped cavity with an angle of 40° at the vertex.

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O

L 26058-65

ACCESSION NR: AP5004372

The total distance from the discharge gap to the vertex of the wedge cavity was 1300 mm. The tube was filled with atmospheric air. The initial pressure prior to the explosion was measured with a McCleod gauge. After each explosion, the tube was refilled with air and pumped out to one of the three initial pressures: 0.1, 0.2, and 0.5 mm Hg. The shock-wave front velocity was measured with an SFR camera with a mirror speed of 60,000 rpm. The passage of the shock wave in the wedge region was photographed at 2×10^6 frames per second by the SFR camera used as a time magnifier. The visible region of the shock wave spectrum was photographed with an ISP-51 spectrophotograph. The results have shown that the multiple irregular (Mach) reflections of a strong shock wave entering the wedge-shape cavity increase noticeably the plasma temperature, increase the mass density by more than 100 times, and increase the glow brightness by more than 1,000 times compared with the plasma characteristics behind the shock wave. At the vertex of the wedge-shape cavity plasma is produced which radiates like a grey body with a brightness temperature 35×10^3 K. The electron density in the wedge-shape cavity is almost ten times larger than in normal reflection from a flat wall (under the same initial shock-wave parameters), and the brightness of the glow increases by approximately 50 times. This can be used to produce a high-

Card 2/3

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L 26058-65

ACCESSION NR: AP5004372

intensity light source. "We thank Professor G. I. Pokrovskiy for suggesting the idea of the experiment, and also K. Ye. Gubkin, Professor K. Moravets, and I. V. Nemchinov for valuable discussions and Z. N. Stepchenkov for calculations." Orig. art. has: 6 figures, 3 formulas, and 8 tables. [02]

ASSOCIATION: Institut fiziaki zemli Akademii nauk SSSR (Institute of Physics of the Earth, Academy of Sciences, SSSR)

SUBMITTED: 15Jun64 ENCL: 00 SUB CODE: ME

NO REF SOV: 007 OTHER: 008 ATD PRESS: 3186

Card 3/3

ACC NR: AP7003249 (A) SOURCE CODE: UR/0207/66/000/006/0003/0013

AUTHOR: Kalmykov, A.A.; Nemchinov, I.V.; Petrukhin, A.I.

ORG: none

TITLE: Experimental investigation of the scattering of an instantaneously heated substance and the appearance of momentum at energy concentrations smaller than the heat of evaporation

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheksoy fiziki, no. 6, 1966, 3-13

TOPIC TAGS: laser heating, laser effect, ice, paraffin, LASER RADIATION, HEAT OF VAPORIZATION

ABSTRACT:

High-speed photography was used in an investigation of the scattering of a substance heated by laser radiation. The substances selected were ice and paraffin which were rapidly heated by a giant-pulse ruby laser to an energy concentration smaller than the heat of evaporation Q. The pulse duration at the half flux was $\tau = 2 \times 10^{-8}$ sec. The rate of scattering of the substance was determined by means of a high-speed photo-chamber with a maximum speed of 5×10^7 frames per second. The splitting-off was accompanied by momentum, which was generated by the scattering of the substance. The

Card 1/2 UDC: none

ACC NR: AP7003249

release of energy E_r in a surface layer with a thickness x_r or mass m_r in a time $\tau < t_g$ (characteristic time of gasdynamic processes $t_g = x_r/c$, where c is the sonic velocity in the substance), resulted in the appearance of a pressure $p_0 = (\gamma - 1)E_r/x_r$ in that layer. The closing up of rarefaction waves propagating from the boundary of the heated layer led to the appearance of negative stresses. When these stresses exceeded the dynamic tensile strength of the substance, a splitting-off took place. The maximum coefficient of energy utilization $\xi = I\sqrt{Q/E}$ was found to be at an energy concentration in a unit of mass close to Q and lower, and can reach values close to maximum values at high energy concentrations (above the heat of evaporation). The authors thank their laboratory colleagues Ya. T. Gnoyevoy and B. M. Zubenko and V. S. Savinich, a student at the Moscow Physicotechnical Institute, for their help in the work. [JA]

SUB CODE: 20/ SUBM DATE: 02Jun66/ ORIG REF: 011/ OTH REF: 001
ATD PRESS: 5114

BELOKON', V. A.; PETRUKHIN, A. I.; PROSKURYAKOV, V. A. (Moscow)

"On the entry of a strong shock wave into a wedge-shaped cavity"

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 1964.

USSR/Nuclear Physics - Ionization Chambers Dec 49
Showers

"Form of the Pulse in Ionization Chambers," A. I. Petrukhin, M. I. Podgoretskiy, N. D. Fedorov, L. N. Shtarkov, M. N. Shcherbakova, 3 pp

155T51

"Dok Ak Nauk SSSR" Vol LXIX, No 4

Bridge, Hazen, Rossi, and Williams, making use of fact that collection time for electrons is 2-3 orders less than that for positive ions (electrons are negative ions when chamber is filled with carefully purified noble gas), used high-frequency amplifier to obtain on its output a pulse connected

155T51

FDD

USSR/Nuclear Physics - Ionization Chambers Dec 49
(Contd)

solely with movement of electrons. Authors used amplifier passing both high and low frequencies to register form of pulse provided by positive ions. Submitted by Acad D. V. Skobel'tsyn 3 Sep 49.

155T51

FDD

PETRUKHIN, A. I.

[illegible]

[illegible] of [illegible]
[illegible]

L 13599-66 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1)

ACC NR: AP6001015 SOURCE CODE: UR/0286/65/000/022/0096/0096

AUTHORS: Pylev, B. B.; Markov, S. A.; Petrukhin, A. N.

ORG: none

TITLE: Detector of linear motion of parts. Class 83, No. 176524

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 96

TOPIC TAGS: aircraft fuel system equipment, hydraulic equipment

ABSTRACT: This Author Certificate presents a detector of linear motion of the equipment parts, and principally of the translational motion time in the slide rod of hydraulic systems in automatic aviation fuel equipment. The measured part has a hole intersecting a light beam incident on a photometric detector. To increase the accuracy of measurement and to insure a given constant force of motion of the slide rod for the whole measured section of travel, the hydraulic drive has a rigidly coupled screen and rod, which have different reference cross-sectional areas (see Fig. 1). The photometric detector with two photodiodes has a slotted shield for limiting the light beam and adjusting the detector to the initial point of command

UDC: 621.318.563.5

L 13599-66

ACC NR: AP6001015

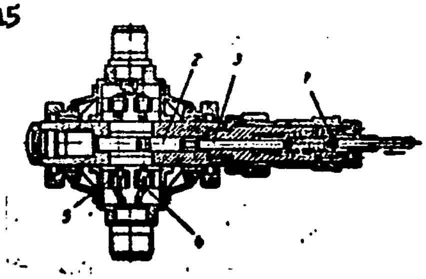

Fig. 1. 1 - Hydraulic drive unit; 2 - screen; 3 - rod; 4 and 5 - photometric detectors.

output to the slave mechanism. Orig. art. has: 1 diagram.

SUB CODE: 01/ SUBM DATE: 16Jun64

Card 2/2

GINZBURG, [illegible], inzh.; [illegible], inzh.; [illegible], inzh.;
[illegible]SH[illegible], kand. tekhn. nauk; [illegible], inzh.;
[illegible], kand. tekhn. nauk

Transistorized [illegible] elements of the standard [illegible]
T-series for industrial [illegible] control systems. [illegible]
[illegible]

PETRUKHIN, B.P. (Moskva)

Input-output characteristics of a transistorized inverter. Avtom. i telem. 26 no.1:132-139 Ja '65. (MIRA 18:[illegible]

[illegible], D., inzh.; VATOLIN, Ye., inzh.; IGNAT'YEV, A., inzh.; PETRUKHIN, B., inzh.

Pneumatic blasting. Mast.ugl. 8 no.6:9 Je '59.
(MIRA 12:10)
(Blasting) (Mining engineering)

ONOPRIYENKO, V.P., kand.tekhn.nauk; LEBEDEV, A.Ye., inzh.; PETRUKHIN, B.A., inzh.; KONOPLYA, M.V., tekhnik

Selecting the better size of shell-limestone lumps for sintering Kerch ore concentrates. Trudy Ukr.nauch.-issl.inst.met. no.5:53-63 '59. (MIRA 13:1)

1. Ukrainskiy institut metallov i Kamysh-Burunskiy zhelezorudnyy kombinat.
(Kerch Peninsula--Iron ores) (Sintering)

L 63227-65

ACCESSION NR: AP5015909 UR/0103/65/026/006/1067/1073
621.374.335

3
B

AUTHOR: Vasil'yeva, N. P. (Moscow); Matorina, V. S. (Moscow); Petrukhin, B. P. (Moscow); Prokhorov, N. L. (Moscow); Sedykh, O. A. (Moscow); Germ, E. I. (Moscow)

TITLE: Regions of mutually stable characteristics of logical elements and the problems of their design

SOURCE: Avtomatika i telemekhanika, v. 26, no. 6, 1965, 1067-1073

TOPIC TAGS: logical element, logical element stability, logical element design

ABSTRACT: There are two types of the "transfer" (input/output in relative units) characteristic of logical elements: the repeater type and the inverter type. The functional stability of both types, defined as the absence of an undesirable transition from 1 to 0 or from 0 to 1, is considered. On the basis of input signals and noise immunity, boundaries of regions are established within which all

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L 63227-65

ACCESSION NR: AP5015909

6

"transfer" characteristics of the elements are mutually stable. Also, the limitations imposed on the repeater and inverter regions by maximum output signals are considered. These design steps are recommended: (1) Establishing the desirable characteristics of logical elements in terms of load, supply voltage, temperature, etc.; (2) Selecting the optimal parameters of the elements; (3) Finding the stable regions on the basis of the element characteristics or on the basis of input-output signals and noise immunity; (4) Allowance for the tolerable parameter spread; (5) Determining parameters for the quality control of logical elements. Orig. art. has: 8 figures and 6 formulas.

ASSOCIATION: none

SUBMITTED: 11Jul64 ENCL: 00 SUB CODE: DP, EC

NO REF SOV: 001 OTHER: 000

Card 2/2

L 8893-66

ACC NR: AP5026971 SOURCE CODE: UR/0103/65/026/010/1879/1881

29
B

AUTHOR: Petrukhin, B. P. (Moscow)

ORG: None

TITLE: Static amplification factor of a transistor as a function of collector current and temperature

SOURCE: Avtomatika i telemekhanika, v. 26, no. 10, 1965, 1879-1881

TOPIC TAGS: transistor, amplification factor

ABSTRACT: The author considers the integral amplification factor B for transistors at the saturation line, since α and β are meaningless as gain factors where the collector current is not changed by a variation in base or emitter current. Static methods are used for calculating B under given technical conditions and at the saturation line for P16 class transistors Empirical expressions are obtained for $B = f(I_C, T)$ where I_C is collector current and T is ambient temperature in °K, and approximate mathematical formulas are derived for these expressions. The author is sincerely grateful to Technician N. I. Fedotova for making the measurements. Orig. art. has: 2 figures, 1 formula.

SUB CODE: 09 / SUBM DATE: 24Dec64

Card 1/1 UDC 621.382.31

DOMANITSKIY, S. M.; PETRUKHIN, B. P.; PRANGISHVILI, I. V.

Semiconductor logical units for the systems of industrial automation and telemechanics. Priborostroenie no. 4:1-4 Ap '64. (MIRA 17:6)

PETRUKHIN B.A.

18(5); 25(5) P 2 PHASE I BOOK EXPLOITATION SOV/1574

Kyyiv. Ukrayins'kyy naukovo-doslidnyy instytut metaliv

Vprovadzhennya novoyi tekhniky i tekhnologiyi na metalurhiynykh zavodakh Ukrayiny; zbirnyk, t. 3 (Introduction of New Techniques and Technology in Ukrainian Metallurgical Plants; Collection of Articles, Vol. 3) Kyyiv, Derzhtekhvydav URSR, 1958. 192 p. 1,000 copies printed.

Exec. Ed.: H. Afonina; Tech. Ed.: P. Patsalyuk.

PURPOSE: The book is intended for metallurgists employed in rolling and slabbing operations.

COVERAGE: This is a collection of 11 Ukrainian articles, compiled by 22 authors, some of whom are referred to as eminent specialists. The subjects dealt with in the articles are: use of limestone-fluxed slag in making pig iron, use of blast-furnace gas under increased pressure, use of oxygen in making steel in open-hearth and Bessemer furnaces, description of a new method of "intensified" squeezing of slabs in blooming mills. Some design details, with direct references to actual plants and certain operational

Card 1/4

practices are also featured. Introduction of full mechanization of rolling processes at steel-works is taking place. Numerous diagrams accompany the text. Some articles have bibliographic entries, mainly Soviet.

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Onopriyenko, V.P., and N.Ye. Sydorov. Quality of Limestone-fluxed Slag and Its Use in Ukrainian Metallurgical Plants 6

Onopriyenko, V.O., I.S. Lysenko, A.I. Soldatkin, and B.A. Petrukhin. Fluxed Slag Obtained From Kerch' Iron Ore and Limestone-Turtle Stone 21

Pokryshkin, V.L. Formation of Metal and Slag in Blast Furnaces 39

Zaytsev, I.A. Some Problems in the New Technology of Running the High-phosphorus Pig Iron in Open-hearth Furnaces Under Application of Oxygen 58

Introduction of New Techniques (Cont.) SOV/1574

B~~y~~elokurov, S.I., Ye. I. Bembinek, S.T. Zaykov, P.Ya. Kravtsov, and S.I. Stupel'. Use of Calcium-Silicon in the Deoxidation of Steel for Making Wheels and Tires 87

Leve, N.F., G.A. Klemeshov, and S.S. Sandomyrs'ka. Effect of Nonmetallic Admixtures Upon Some Properties of Bessemer Steel, Deoxidized by Calcium-Silicon 92

Aleksandrov, P.A., V.V. Klepanda, and Ye Ya. Ryeznik. Ways of Increasing the Durability and Wear-resistence of Rolls in Rolling Mills 103

Dolzhenkov, F.Ye. Unused Possibilities of Augmenting the Performance of Small-roll Slabbing Mills Working Large-size Slabs 117

Filipov, I.N. Steel Rolling According to Technological Performance Charts; Compilation of Charts 140

Card 3/4

PETRUKHIN, B.A.

Pilot plant for the magnetic roasting of the Kerch Peninsula brown ores. Obog.rud 4 no.3:56 '59. (MIRA 14:8)

1. Nachal'nik rudoispytatel'noy stantsii Kamysh-Burunskogo kombinata.

(Kerch Peninsula—Ore dressing)

ONOPRIYENKO, V.F., kand.tekhn.nauk; LEBEDEV, A.Ye., kand.tekhn.nauk; SOLDATKIN, A.I., kand.tekhn.nauk; LOZOVOY, F.K., inzh.; PETRUKHIN, B.A., inzh.; ARBUZOV, V.A., inzh.; Prinimali uchastiye: FURMAN, D.M.; KONOPLYA, M.V.; KOTOV, A.I.

Pilot-plant production of sinter with a basicity of 1.. from Kerch ore concentrates. Biul. TSIICHM no.10:17-22 '60. (MIRA 15:4)

1. Ukrainskiy institut metallov (for Furman, Konoplya). 2. Kamyshburunskiy kombinat (for Kotov).

(Sintering) (Kerch Peninsula--Iron ores)

SOLDATKIN, A.I., kand.tekhn.nauk; Prinimaldi uchastiye: PETRUKHIN, B.A.;
BABIY, A.A.; SHARKEVICH, L.D.; VYAZOVSKIY, Yu.V.; GRIBANOV, L.M.;
KIREYEVA, K.K.; PAVLOVA, V.D.; PRISHUTOVA, V.S.

Preparation of fluxed sinter from Kerch ore concentrates. Trudy
Ukr. nauch.-issl. inst. met. no.7:36-50 '61. (MIRA 14:11)
(Kerch Peninsula--Iron ores) (Sintering)

L 51315-65 EWP(k)/EWT(d)/EWP(h)/EWP(1)/EWP(v) Pf-4

ACCESSION NR: AP5009788 UR/0292/65/000/004/0011/0014

681.142.67:621.316.925.001.3

AUTHOR: Girshberg, V. V. (Engineer); Kutler, N. P. (Engineer); Khodnev, V. V. (Engineer); Petrukhin, B. P. (Engineer); Domanitskiy, S. M. (Candidate of technical sciences); Prangishvili, I. V. (Candidate of technical sciences)

20

B

TITLE: Transistor logical and functional elements of the standardized ET series intended for industrial automatic systems 14

SOURCE: Elektrotekhnika, no. 4, 1965, 11-14

TOPIC TAGS: logical element, functional element, industrial automation / ET automatic element

ABSTRACT: Data on 18 Soviet-made NOR, OR, AND and MEMORY elements is given. The elements are designed to operate at -40+50C, humidity up to 80% at +30C, supply-voltage variation of -15+10%. The intensity of failure of the principal 2NOR ("ET-L01") element is 10^{-8} per hr which is much lower than the

Card 1/2

L 51315-65

0

ACCESSION NR: AP5009788

statistical intensity for relays. The life of the elements — 40000 hrs — is independent of the number of operations. The principal logical elements operate at a frequency up to 10 kc. Supply voltages, -12 or -25 v; bias voltage, +6 v; load voltage, 24 v dc. Signal levels, 0.2—0.8 v or 4 v dc. Orig. art. has: 10 figures and 3 tables.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: IE

NO REF SOV: 000

OTHER: 000

Card 2/2

PETRUKHIN, B.P., inzh.

Logical elements for automatic control systems. Prioborostroenie no.1:10-12 Ja '63. (MIRA 16:2)

(Electronic control)

PETRUKHIN, B.I.

PHASE I BOOK EXPLOITATION SOV 4401

Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki

Avtomaticheskoye upravleniye; (sbornik rabot) (Automatic Control; Collected Works) (Moscow, Izd-vo AN SSSR (1960) 43' p. Errata slip inserted. 4,500 copies printed.

Ed.: Ya.Z. Tsypkin, Doctor of Technical Sciences, Professor; Ed. of Publishing House: Ye.N. Grigor'yev; Tech. Ed.: G.A. Astaf'yeva.

PURPOSE: This collection of reports is intended for scientists and engineers engaged in the study of automation.

COVERAGE: The collection contains reports presented at the 6th Conference of Young Scientists of the Institut avtomatiki i telemekhaniki AN SSSR (Institute of Automation and Telemechanics of the Academy of Sciences USSR) in January 1959. The collection covers a wide range of scientific and technical problems connected with automatic control. No personalities are mentioned. References accompany each report.

PART III. STRUCTURAL ELEMENTS OF AUTOMATION AND TELEMECHANICS

Gogolevskiy, V.B. Problem of the Computation of Dynamics in Electromagnetic Mechanisms 188

The author endeavours to determine simple dynamic relationships for both d-c and a-c electromagnetic systems, without taking into consideration such factors as steel saturation, hysteresis, and eddy currents. The examination of the process begins at the very moment the armature starts. There are 3 references, all Soviet.

Dvoretskiy, V.M. Device for Obtaining Low and Steady Consumption of Actuating Pressure Fluid by Controlling the Pressure Drop on the Constant-Resistance Throttle Valve 195

The author describes a method of obtaining low consumption of pressure fluid in systems of automatic hydraulic control. The method is based on the control of pressure drop in throttle valves with constant resistance. There are 3 references, all Soviet.

Sorkin, E.B. Storage Device for Analog Computers 201

The author describes a storage device developed at the Institute of Automation and Telemechanics of the Academy of Sciences USSR, under the supervision of L.N. Fitsner, Candidate of Technical Sciences. The device has a simple structure and makes it possible to store d-c voltages within a range of about 100v for a period of 3 to 4 hrs. There are no references.

Petrukhin, B.P. Adapter for Tracing Mixer Characteristics in Analyzers (Cathode-Ray Curve Tracer) 205

This report describes an adapter which may be used with the d-c oscillograph ENO-1 for tracing static input and output characteristics of both power (P4, P203) and low-capacity (P3) transistors. The adapter operates in two connections diagrams, with a common base and with a common emitter. The principle of operation of the adapter is electromechanical. There is one Soviet reference.

Prangishvili, I.V. Noncontact (Magnetic-Transistorized) Relay 2..

The report deals with the development of output relays for modern noncontact automatic control and telemechanics systems. Such systems could be made more economical and efficient if they were equipped with low-cost small-size components built of ferrite cores and semiconductor diodes. The use of these components imposes special requirements on the output relays because of the low-power and short duration of pulses received from these components. The author describes the structure, determines the required parameters of some sample types of relays, and concludes that the results of their operated are satisfactory. There are no references.

IGNAT'YEV, A.D.; VATOLIN, Ye.S.; PETRUKHIN, B.S.; ADAMIDZE, D.I.

Holing and breaking-off of coal by the method of blasting water-stemmed bore hole charges. Ugol' Ukr. no.6:29-30 Je '60. (MIRA 13:7)

(Mining engineering)

KRAVETS, I.N. ; KUDRYAVTSEV, P.S., redaktor; PETRUKHIN, I.S.,redaktor;
ASTAF'YEVA, G.A., tekhnicheskiy redaktor.

[T.F.Osipovskii, outstanding Russian scientist and thinker]
T.F.Osipovskii - vydaiushchiisia russkii uchenyi i myslitel'.
Moskva, Izd-vo Akademii nauk SSSR, 1955. 102 p. (MLRA 8:7)
(Osipovskii, Timofei Fedorovich, 1765-1832)

USSR/Diseases of Farm Animals - Diseases Caused by Helminths. R-3

Abs Jour : Ref Zhur - Biol., No 11, 1957, 50196

Author : Petrukhin, I.V.

Inst : Moscow Academy of Veterinary Sciences.

Title : Comparative Evaluation of Anthelmintic Effects of Amino-quinacrine and Arecoline.

Orig Pub : Tr. Mosk. vet. akad., 1956, 18, 145-154

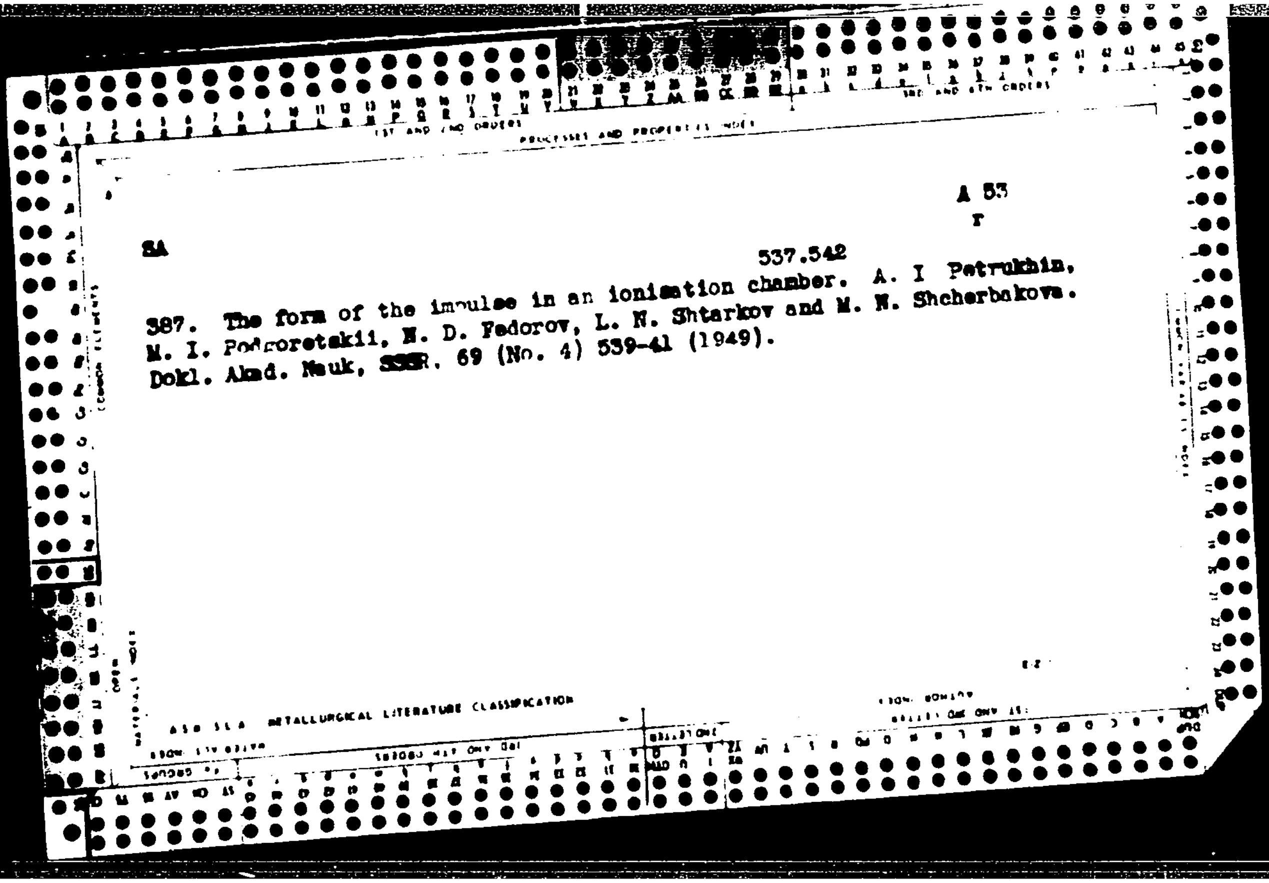
Abstract : Tests performed in vitro and in vivo have demonstrated that aminoquinacrine (A) is a specific anthelmintic substance possesing contact effects not only against cestodes but also against nematodes. A produces spastic contractions in the muscles of cestodes, and thus causes them to fall off from their places of fixation. The anthelmintic effects of A are assisted by peristaltic movements within the host, which are caused by A. The author

Card 1/2

3 a.

C. A.
1951

Form of the impulse in the ionization chamber. A. I. Petrukhin, M. I. Podgoretskii, N. D. Fedorov, L. N. Shtarkov, and M. N. Shcherbakova. *Doklady Akad. Nauk S.S.S.R.* 69, 539-41(1949); cf. Bridge, *et al.*, *C.A.* 43, 10456. Oscillographs of ionization-chamber impulses were analyzed to obtain information about the initial ion distribution. If the pos. ions are initially concd. very near the exterior cylinder, the trace is concave with pos. exterior electrode (cathode). If Q^- is the amplitude of the impulse for electron collection and Q^+ that for pos.-ion collection, Q^+/Q^- for an initial space distribution is 4.4 compared to an observed av. 4.6 ± 0.6. F. H. Murray



A 53

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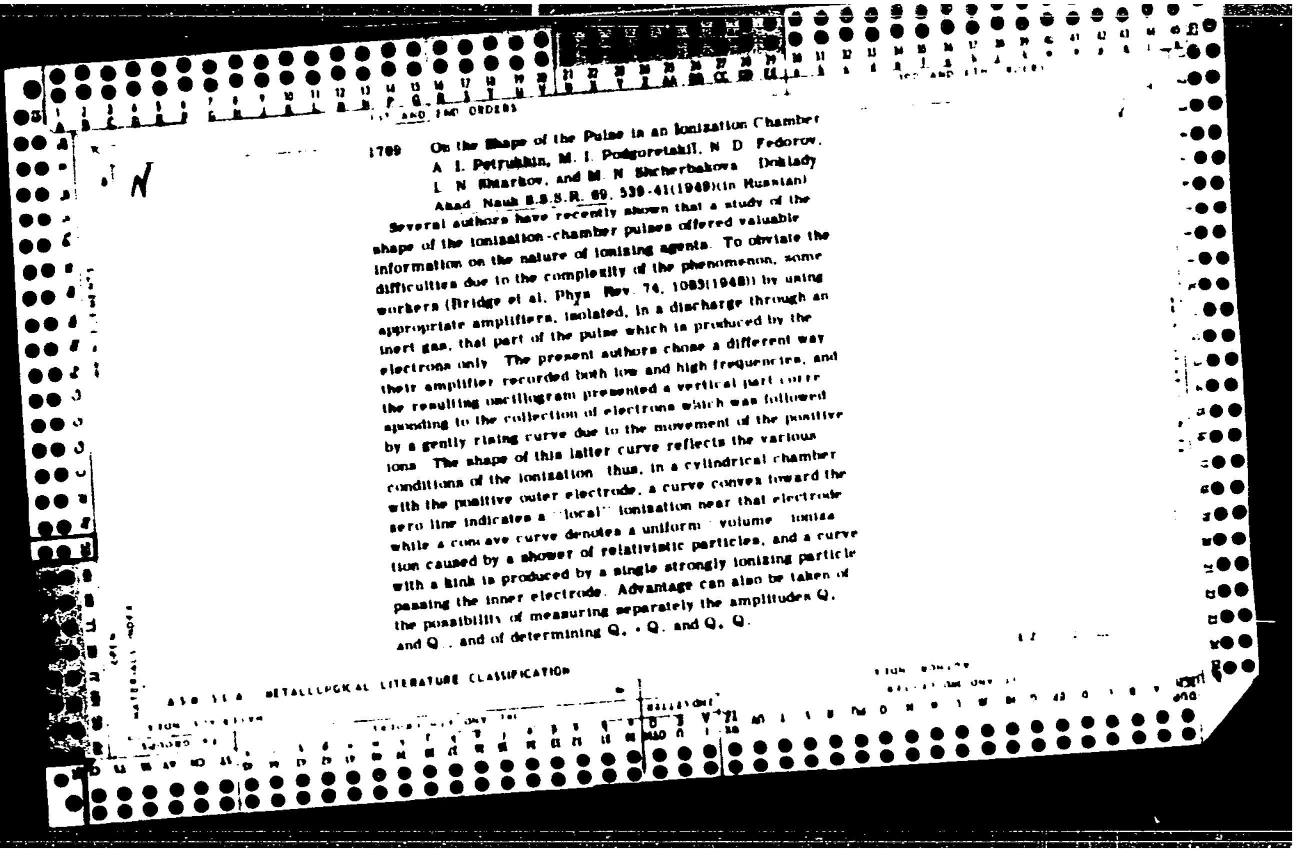
SA

537.542

387. The form of the impulse in an ionisation chamber. A. I Petrukhin, M. I. Podgoretskii, N. D. Fedorov, L. N. Shtarkov and M. N. Shcherbakova. Dokl. Akad. Nauk, SSSR. 69 (No. 4) 539-41 (1949).

1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



AND 2ND ORDERS

1709 On the Shape of the Pulse in an Ionization Chamber A. I. Petrukhin, M. I. Podgoretskii, N. D. Fedorov, L. N. Kharkov, and M. N. Shcherbakova. Doklady Akad. Nauk S.S.S.R. 69, 539-41(1949)(in Russian)

Several authors have recently shown that a study of the shape of the ionisation-chamber pulses offered valuable information on the nature of ionising agents. To obviate the difficulties due to the complexity of the phenomenon, some workers (Bridge et al. Phys. Rev. 74, 1083(1948)) by using appropriate amplifiers, isolated, in a discharge through an inert gas, that part of the pulse which is produced by the electrons only. The present authors chose a different way their amplifier recorded both low and high frequencies, and the resulting oscillogram presented a vertical part corre sponding to the collection of electrons which was followed by a gently rising curve due to the movement of the positive ions. The shape of this latter curve reflects the various conditions of the ionisation. thus, in a cylindrical chamber with the positive outer electrode, a curve convex toward the zero line indicates a "local" ionisation near that electrode while a concave curve denotes a uniform "volume" ionisa tion caused by a shower of relativistic particles, and a curve with a kink is produced by a single strongly ionising particle passing the inner electrode. Advantage can also be taken of the possibility of measuring separately the amplitudes Q, and Q, and of determining Q, + Q, and Q, Q.

PETRUKHIN, C. and ZININ, B.

"Complex brigades for technical servicing and current repair in automobile management," Automobile, 1951.

SHILIN, A., PETRUKHIN, I., YEPIFANOV, M. and FILATOV, A. (Reviewers)

"A valuable handbook - Mozgov, I.E. "Farmakologiya" [Pharmacology].
M., Sel'khozgiz, 1961. 3rd revised and enlarged edition..."
Veterinariya, vol. 39, no. 3, March 1962 pp. 87

PETRUKHIN, I.P., voyennyy shturman vt[illegible] klassa inzhener-polkovnik

Rerouting bombers to a new target. Vest.Vozd.Fl. 39 no.5 [illegible] My '57. (MIRA [illegible])

(Bombers) (Navigation (Aeronautics))

PETRUKHIN I P

86-5-2/24

AUTHOR: Petrukhin, I. P., EngCol, Mil. Navigator, Second Class

TITLE: Diverting the Bombers to Other Targets (Perenatselivaniye bombardirovshchikov)

PERIODICAL: Vestnik Vozdushnogo Flota, 1957, Nr 5, pp. 10-16 (USSR)

ABSTRACT: The author deals with the problem of how to divert bombers from predetermined targets to other targets. When the bombing is carried out with the use of a telemetering system and the crew in the air is ordered to bomb another target, the necessary bombing data cannot be recomputed in the usual way with the use of complete formulas within the limited time by either the bomber crew or the command post on the ground. For that purpose other less time-consuming methods should be found. The author recommends that a chart of the scale of 1:50,000 be used which permits the measuring of ranges within an accuracy of 25 m. A navigator should be detailed to the ground command post to make the necessary recomputations. He should be equipped with the above-mentioned chart, the necessary navigational

Card 1/3

86-5-2/24

Diverting the Bombers to Other Targets (Cont.)

lowering the accuracy of bombing. The author concludes that diverting the bombers to other targets with the use of a telemetering system considerably widens the tactical possibilities of bombers. Five diagrams, 2 tables.

AVAILABLE: Library of Congress

Card 3/3

1. PETRUKHIN, I. S.

2. USSR (600)

4. Makarenko, Anton Semenovich, 1888-1939

7. Pedagogical experience of A. S. Makarenko and its significance in theory. Izv. Ak. ped. nauk no. 36, '52.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

MARKOVA, Tat'yana Aleksandrovna; VOLKOVA, Ye.I., red.; MIKHAYLOVA, L.V., red.; PANFILOVA, T.S., red.; PETRUKHIN, I.S., red.; SLAVINA, L.S., red.; VOLKOVA, T.E., red.; ZAGIK, L.V., red.; DOBROKVASHINA, A.M., tekhn. red.

[Let's train little children to do housework] Priuchaite malen'kikh detei k domashnemu trudu. Moskva, Izd-vo Akad. pedagog. nauk, 1961. 53 p. (MIRA 15:3)
(Children--Management)

USSR / Pharmacology, Toxicology. Chemo-Therapeutic Preparations. V
Anthelminthic Drugs.

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No 27992

Author : Petrukhin, I. V.
Inst : [redacted]ademy
Title : Pharmacological Analysis of Amino-Acrichine

Orig Pub : Tr. Mosk. vet. akad., 1956, 18, 132-139

Abstract : In experiments on isolated hearts of frogs in concentrations of 1 : 10 mln and cat 1 : 100 mln, amino-acrichine (I) induced a slowing down of frequency and an increase of amplitude of cardiac contractions at the expense of increase of diastolic relaxation. Further increase of I concentration led to greater slowing down of the frequency and weakening of systolic contractions; a concentration of I of 1 : 1000 induced cardiac arrest in frog and a concentration of 1 : 100 thous. - in cat. Changes

Card 1/2

USSR / Pharmacology, Toxicology. Chemo-Therapeutic Preparations. V
Anthelminthic Drugs.

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 27992

on the ECG of cattle were found after introduction of 35 mg/kg. Slowing of pulse was noted in 50% of animals; in all animals, QRS shifted to the left, which evidences strong working of the left ventricle. I increases the respiratory rate only in large doses (7 mg/kg; in dog). I in a dose of 0.010 mg/kg increases the motor activity of the rumen and thin part of intestines of cattle. On isolated part of intestine of rabbit, increase of contractions in perfusion of I in concentration 1 : 10 mln and 1 : 1 mln, was determined; contractions stopped at concentration of 1 : 100 thousand. Arecoline, atropine and barium chloride did not restore the motor activity; only washing off with nutrient fluid restored the contractions. -- A. N. Karpova

Card 2/2

USSR / Pharmacology, Toxicology. Chemo-Therapeutic Preparations. V
Anthelminthic Drugs.

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 27993

0.1 g/kg. The picture of intoxication is varied in animals of different species and in various doses of I. In some animals, a laxative effect is sharply expressed (mice, cats, geese). Young animals are more sensitive than adult ones. In cats, dogs, and geese, I induced vomiting in introduction into the stomach but not in intravenous introduction. -- A. G. Brusilovskaya

Card 2/2

PETRUKHIN, I.V.; KOZNOV, N.A.; SHKUDOVA, R.I., red.; SAYTANIDI, L.D.,
tekhn.red.

[Trichomoniasis in cattle] Trikhomonoz krupnogo rogatogo skota.
Moskva, Izd-vo M-va sel'.khoz.RSFSR, 1961. 119 p. (MIRA 15:5)

(Cattle--Diseases and pests) (Trichomoniasis)

USSR/Diseases of Farm Animals. Diseases Caused by
Protozoa

Abs Jour: Ref Zhur-Biol., No 3, 1958, 12277

Author : Petrukhin I. V.
Inst : Moscow Veterinary Academy
Title : Antihemosporic Effect of Aminoacrichin

Orig Pub: Tr. Mosk. vet. akad., 1956, 18, 140-144.

Abstract: Aminoacrichin was used for treatment of 9 horses afflicted with piroplasmosis I; intravenous in a one percent solution 0.0002-0,0035 gr/kg); seven horses were treated with hemospiridin II: subcutaneously in a one percent solution of a 0.0002 gr/kg dose; 29 horses were treated with trypanic blue III: 0.0035 gr/kg intravenously in a one percent solution; and one

Card : 1/2

PE[illegible], A. A.

Z. [illegible] AN, AKA[illegible]. [illegible] -KHOZ. NAUK [illegible] A, [illegible], [illegible]

54-[illegible]

FROLOV, K.; PETRUKHIN, M. (Tashkent).

Let's strengthen the ties of our friendship. Prom.koop. 13 no.12:36-37 D '59. (MIRA 13:4)
(Cooperative societies--Congresses)

PETRUKHIN, M.I. (Leningrad)

Elements and blocks of single-cycle parallel arithmetic devices in a digital computer using ferrite-transistor cells. Avtom. i telem. 22 no.2:199-208 F '61. (MIRA 14:4)

(Electronic digital computers)
(Pulse techniques (Electronics))

89174

9.7100

S/103/61/022/002/005/015
B104/B201

AUTHOR: Petrukhin, M. I. (Leningrad)

TITLE: Elements and units of an arithmetical one-cycle parallel device of a digital computer composed of ferrite transistor cells

PERIODICAL: Avtomatika i telemekhanika, v. 22, no. 2, 1961, 199-208

TEXT: The present paper deals with some construction principles of one-
cycle circuits, a symmetric output trigger, a shift register, and a
summator for arithmetical parallel devices composed of ferrite transistor
cells. These circuits offer a number of advantages compared with static
triggers. Among the principal advantages are the less rigorous demands
mode on transistors. In most cases, the operation of FT cell circuits is
based upon the principle of the transmission of information from one cell
to another by pulses. Two-cycle and multi-cycle circuits have a less
quick response. The computer elements are dealt with in the first part,
beginning with delay elements and with the self-excitation FT cell shown
in Fig. 1. The unsymmetric output one-cycle triggers used as storage

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89174

elements are discussed next with a special stress on the triggers shown in Figs. 2 and 3. A differentiation circuit is situated at the symmetric input of the first circuit. In the second variant of storage elements the FT cell works with self-excitation. Composite FT cells for the readout of information are also discussed. A circuit diagram of such an FT cell is shown in Fig. 4. The units of an arithmetical device are dealt with in the second part. The diagram of a one-cycle register with shift is first discussed in Fig. 6, and, next, the diagram of a one-cycle parallel summator is shown in Fig. 7. There are 7 figures and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc.

SUBMITTED: January 2, 1960

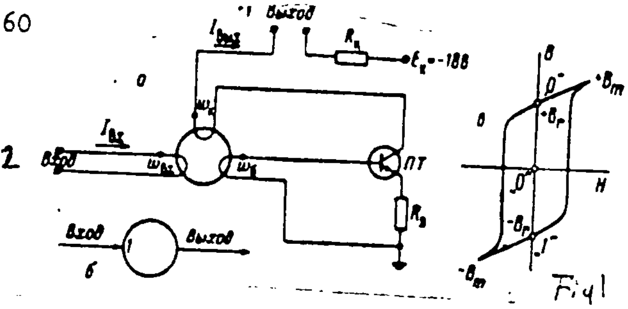

Fig1

Elements and units of an...

Legend to Fig. 1: Ferrite transistor cell with self-excitation. a) basic circuit. б) designation. в) hysteresis loop of ferrite. 1) output. 2) input.

Legend to Fig. 2: First variant of a one-cycle trigger with unsymmetric output. a) basic diagram. б) designation. в) operation diagram. 1), 2), and 3) inputs, 4) and 5) outputs.

Card 3/7

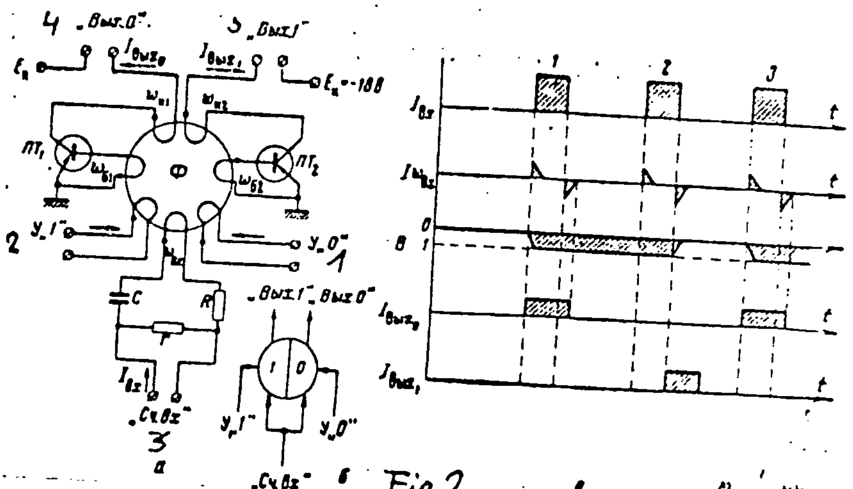

Fig.2

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Elements and units of an...

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B104/B201

Legend to Fig. 3: one-cycle trigger with unsymmetric output (second variant). a) basic diagram. б) working diagram. 1) input. 2) outputs.

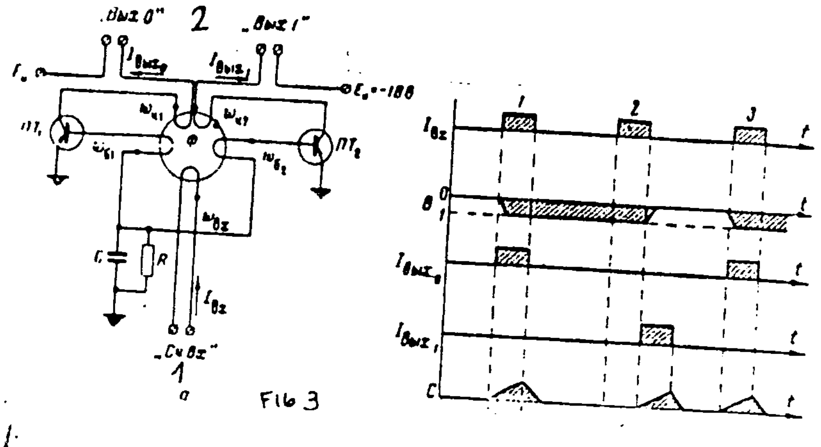

Fig 3

Card 4/7

Elements and units of an...

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B104/B201

Legend to Fig. 4: composite FT cell. a) basic diagram. б) designation. 1), 2), and 3) inputs, 4) output.

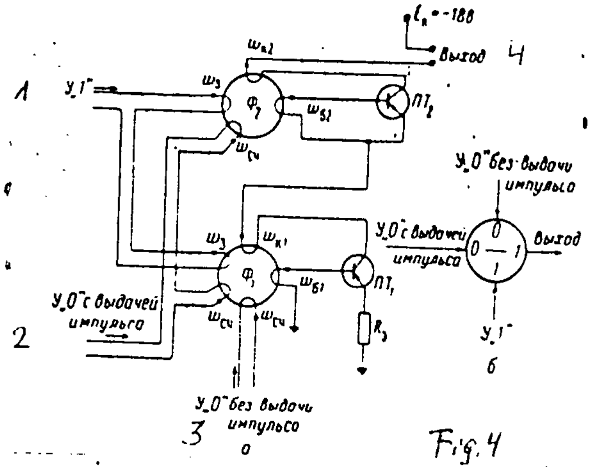

Fig. 4

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Elements and units of an...

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B104/B201

Legend to Fig. 6:
1) code receiving.
2) code delivery.
3) delivery of the direct code.
4) delivery of the inverse code.
5) shift.

S/103/61/22/2/5/15

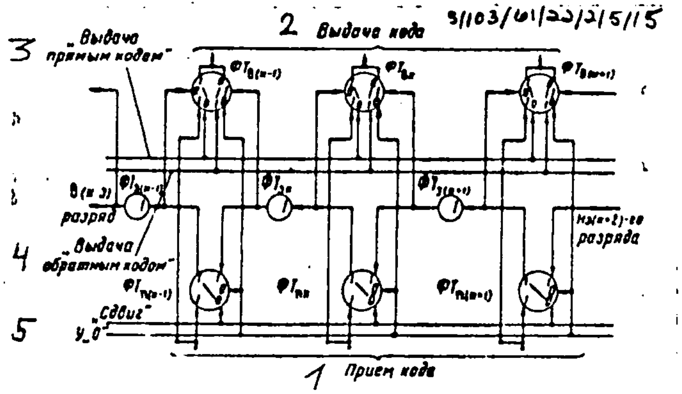

Рис. 6

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B104/B201

Elements and units of an...

Legend to Fig. 7: one-cycle parallel summator: 1) code receiving. 2) code delivery.

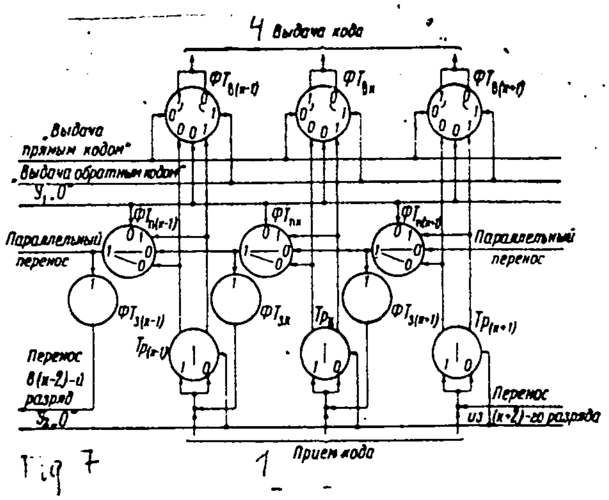

Fig 7

Card 7/7

GOLUBEV, L.A.; GORENSHTEYN, L.M; PETRUKHIN, M.I.

Method of rapid precise multiplication of binary numbers on a digital calculating machine. Priborostroenie no.3 -9 Mr '62.

(Electronic digital computers) (MIRA 15:4)

[illegible]
[illegible]/[illegible]/[illegible]/[illegible]/[illegible]
[illegible]/[illegible]

1,7100

AUTHORS: Golubev, L.A., [illegible]shteyn, L.[illegible]., and Petrukhin, [illegible].

TITLE: A method of fast exact multiplication of binary [illegible] in a digital computer

PERIODICAL: Priborostroyeniye, no. [illegible], [illegible], [illegible] -

TEXT: The authors consider an exact multiplication [illegible] which obtains 2n-digit products with (n + [illegible])-digit adders and [illegible]. The method is based on an adder with a ring carry and a multiplicand register with a ring shift. Since in the process of multiplication the least significant digit of the multiplier does not [illegible] the consecutive sums of partial products, when the first sum of partial products is formed, the digit which [illegible] further coding will be the 2n-th digit of the product and the ([illegible] k + 1)-th product digit in the forming of the k-th sum, [illegible] an integer between 1 and n. The least significant digit [illegible] at the adder at the beginning of the addition process. [illegible] n free digits are formed in the order which are used in each [illegible] -

Card 1/2

A method of fast exact ... [illegible]/62/[illegible]
[illegible]

plication cycle for receiving [illegible] digit of the next sum of partial products. [illegible] possible to obtain an n-digit product without [illegible] an approximation to the (n + 1)-th digit of the product. There are 2 figures.

Card 2/2

LOMBERT, M.I.; PETRUKHIN, M.Ye.;

Time relay for spectroscopic analysis. Zav.lab.21 no.10:1251-1252
'55. (Electric relays) (MLRA 9:1)